

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Tetsufumi SHIMA et al.

Application No.: 10/020,887

Filed: December 19, 2001

For: WEIGHTING FACTOR SETTING  
METHOD FOR SUBTRACTIVE  
INTERFERENCE CANCELLER,  
INTERFERENCE CANCELLER UNIT  
USING SAID WEIGHTING FACTOR  
AND INTERFERENCE CANCELLER

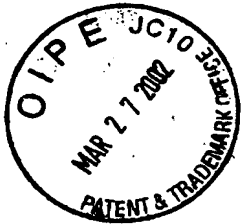
Group Art Unit: 2681

Examiner: Unassigned

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INFORMATION DISCLOSURE STATEMENT  
TRANSMITTAL LETTER

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Enclosed is an Information Disclosure Statement and accompanying form PTO-1449 for the above-identified patent application.

- ☒ No additional fee for submission of an IDS is required.
- ☐ The fee of \$180.00 (126) as set forth in 37 C.F.R. § 1.17(p) is also enclosed.
- ☐ A certification under 37 C.F.R. § 1.97(e) is also enclosed.
- ☐ A certification under 37 C.F.R. § 1.97(e), and the fee of \$180.00 (126) as set forth in 37 C.F.R. § 1.17(p) are also enclosed.
- ☐ Charge \$\_\_\_\_\_ to Deposit Account No. 02-4800 for the fee due.
- ☐ A check in the amount of \$\_\_\_\_\_ is enclosed for the fee due.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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By: 

Kenneth B. Leffler  
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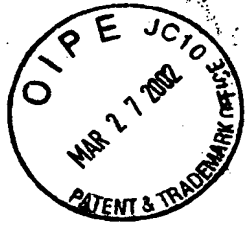
Date: March 27, 2002

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Tetsufumi SHIMA et al. ) Group Art Unit: 2681  
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**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98. Pursuant to 37 C.F.R. § 1.98, a copy of each of the documents cited is enclosed.

**European Search Report issued in connection with Application No.  
JPA 2000385505, dated October 4, 2001:**

Weon Yong Joo et al.: "A Weighted Parallel Interference Cancellation Detector for Convolutionally Coded CDMA Systems", VTC 2000-Spring. 2000 IEEE 51<sup>ST</sup>. Vehicular Technology Conference Proceedings. Tokyo, Japan, May 15-18, 2000, IEEE Vehicular Technology Conference, New York, NY: IEEE, US, Vol. 2 of 3. Conf. 51, May 15, 2000, pages 1100-1104, XP000968040.

European Patent Publication No. EP 0923199 A, June 16, 1999.

Sawahashi et al.: "Pilot Symbol-Assisted Coherent Multistage Interference Canceller Using Recursive Channel Estimation for DS-CDMA Mobile Radio"; IEICE Transactions on Communications, Institute of Electronics Information and Comm. Eng. Tokyo, JP, Vol. E79B, No. 9, September 1, 1996, pages 1262-1269, XP000636064.

European Patent Publication No. EP 0949766 A, October 13, 1999.

Also enclosed are the following:

S. Moshavi: "Multi-User Detection for DS-CDMA Communications",  
IEEE Communications Magazine, October 1996.

U.S. Patent No. 5,644,592, issued to Divsalar et al., July 1, 1997.

D. Divsalar et al.: "Improved Parallel Interference Cancellation for  
CDMA": IEEE Transactions on Communications, Vol. 42, No. 2,  
February 1998, pages 258-268.

T. Suzuki et al.: "Near-Decorrelating Multistage Detector for Asynchronous  
DS-CDMA": IEICE Trans. Commun., Vol. E81-B, No. 3, March 1998,  
pages 553-564.

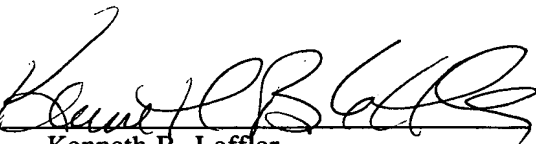
K. Higuchi et al.: "Laboratory Experiments on Coherent Multistage Interference  
Canceller Using Interference Rejection Weight Control for DS-CDMA Mobile  
Radio": IEICE Technical Report, CS99-37, RCS99-29 (1999-06), English  
translation of Abstract.

Digital Communications, Chapter 5: Optimum Receivers for the Additive White  
Gaussian Noise Channel, pages 282-257.

The documents are being submitted within 3 months of the filing or entry of the national  
stage of this application or before the first Office Action on the merits, whichever is later, therefore  
no fee or statement is required under 37 C.F.R. § 1.97(b).

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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Date: March 27, 2002

Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

ATTORNEY'S DKT NO.

060000-198

APPLICATION NO.

10/020,887

APPLICANT

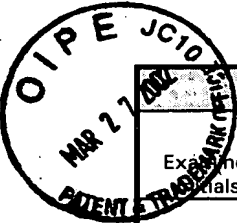
Tetsufumi SHIMA et al.

FILING DATE

December 19, 2001

GROUP

2681



## U.S. PATENT DOCUMENTS

Examiner Initials	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication (MM-DD-YYYY)
	Number	Kind Code (if known)		
	5,644,592		Divsalar et al.	July 1, 1997

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Foreign Patent Document		Country	Date of Publication (MM-DD-YYYY)	Translation	
	Number	Kind Code (if known)			Yes	no
	EP0923199A		Europe	June 16, 1999		
	EP0949766A		Europe	October 13, 1999		

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	WEON YONG JOO et al.: "A Weighted Parallel Interference Cancellation Detector for Convolutionally Coded CDMA Systems", VTC 2000-Spring. 2000 IEEE 51 <sup>st</sup> . Vehicular Technology Conference Proceedings. Tokyo, Japan, May 15-18, 2000, IEEE Vehicular Technology Conference, New York, NY: IEEE, US, Vol. 2 of 3. Conf. 51, May 15, 2000, pages 1100-1104, XP000968040.
	SAWAHASHI et al.: "Pilot Symbol-Assisted Coherent Multistage Interference Canceller Using Recursive Channel Estimation for DS-CDMA Mobile Radio"; IEICE Transactions on Communications, Institute of Electronics Information and Comm. Eng. Tokyo, JP, Vol. E79B, No. 9, September 1, 1996, pages 1262-1269, XP000636064.
	S. MOSHAVI: "Multi-User Detection for DS-CDMA Communications", IEEE Communications Magazine, October 1996.
	D. DIVSALAR et al.: "Improved Parallel Interference Cancellation for CDMA": IEEE Transactions on Communications, Vol. 42, No. 2, February 1998, pages 258-268.
	T. SUZUKI et al.: "Near-Decorrelating Multistage Detector for Asynchronous DS-CDMA": IEICE Trans. Commun., Vol. E81-B, No. 3, March 1998, pages 553-564.
	K. HIGUCHI et al.: "Laboratory Experiments on Coherent Multistage Interference Canceller Using Interference Rejection Weight Control for DS-CDMA Mobile Radio": IEICE Technical Report, CS99-37, RCS99-29 (1999-06), English translation of Abstract.
	Digital Communications, Chapter 5: Optimum Receivers for the Additive White Gaussian Noise Channel, pages 282-257.
Examiner Signature	Date Considered

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.